



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,139	04/07/2006	Jae-Hyuk Oh	60,469-256: OT-5227 LAB	9346
7590 Kerrie A. Laba Carlson, Gaskey & Olds 400 W. Maple Road Suite 350 Birmingham, MI 48009			EXAMINER CHAN, KAWING	
			ART UNIT 2837	PAPER NUMBER
			MAIL DATE 04/21/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/575,139	Applicant(s) OH ET AL.	
	Examiner Kawing Chan	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 10-19 and 23 is/are rejected.
- 7) ☒ Claim(s) 7, 9, 20-22 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendments and Applicant Arguments submitted on 02/23/09 have been received and its contents have been carefully considered. The examiner wishes to thank the Applicant for the response to the Examiner's action and for amending the claims in the appropriate manner.

Claims 22-24 are newly added.

Claims 1-24 are pending for examination.

Claim Objections

2. According to the record, only one set of claims has been received on 04/07/06. Therefore, claims 1-21 are objected to under 37 CFR 1.121(c) as being of improper form of amending claims. According to 37 CFR 1.121(c), any added subject matter must be shown by underlining the added text and any deleted subject matter must be shown by strike-through. Appropriate correction is needed.

Claim Rejections - 35 USC § 112

3. The rejections to claims 8, 16 and 18 have been removed in response to Applicant's Amendments.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 8, 10-19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liston (US 5,366,045) in view of West et al. (US 4,518,153).

In Re claim 1, with reference to Figures 1-3 and 5, Liston discloses a brake system (Abstract) for an elevator car (24) comprising:

- A ropeless and sheaveless stopping mechanism (32) responsive to an electronic control signal (signal received from tachometer generator (76) to activate the solenoid (64)) to automatically stop an elevator car (24) under predetermined conditions (overspeed condition or breakage of cable or loss of power) (Col 1 lines 49-63; Col 2 lines 34-38; Col 3 lines 36-65); and
- At least one spring (72) for moving said stopping mechanism (32) from a non-deployed position (disengaged position) to a deployed position (engaged position) in response to said electronic control signal (Col 3 lines 5-65).

Liston fails to disclose said at least one spring is resettable from a remote location in response to an electronic reset signal.

However, West discloses a spring (84) is resettable from a remote location in response to an electronic reset signal (Abstract; Col 3 lines 5-15) (since a brake

Art Unit: 2837

actuator can be reset remotely, it inherently discloses an electrical reset signal to activate the reset operation).

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have modified the teachings of Liston with the teachings of West, since it is known in the art to remotely reset the safety brake mechanism after the brake has been set so as to be able to easily and conveniently control the brake mechanism.

In Re claim 11, Liston discloses a braking system (Abstract, 32) for an elevator car (24) comprising:

- Identifying a need for an elevator braking operation (overspeed condition or breakage of cable or loss of power) (Col 3 lines 36-65); and
- Generating an electronic control signal (signal provided by tach generator (76)) to activate a ropeless and sheaveless stopping mechanism (32) to prevent movement of an elevator car (24) after identifying a need for an elevator braking operation (Col 1 lines 49-63; Col 2 lines 34-38; Col 3 lines 36-65).
- Moving the stopping mechanism (32) from a non-deployed position (disengaged position) to a deployed position (engaged position) in response to the electronic control signal (Col 3 lines 5-65).

Liston fails to disclose said at least one spring is resettable from a remote location in response to an electronic reset signal.

However, West discloses a spring (84) is resettable from a remote location in response to an electronic reset signal (Abstract; Col 3 lines 5-15) (since a brake actuator can be reset remotely, it inherently discloses an electrical reset signal to activate the reset operation).

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have modified the teachings of Liston with the teachings of West, since it is known in the art to remotely reset the safety brake mechanism after the brake has been set so as to be able to easily and conveniently control the brake mechanism.

6. In Re claims 2 and 12, Liston discloses said electronic control signal is generated in response to an excessive speed condition when an elevator car speed exceeds a predetermined threshold (Col 3 lines 54-62).

7. In Re claim 3, with reference to Figures 1, 2 and 5, Liston discloses the stopping mechanism (32) includes at least one set of safety wedges (50, 51) adapted to be positioned on opposing sides of a guide rail (25) and a safety housing (36, 48) that cooperates with said set of safety wedges (50, 51) to apply a braking force to said guide rail (25) when said safety wedges (50, 51) move from a non-deployed position (disengaged position) to a deployed position (engaged position) (Col 3 lines 3-35).

8. In Re claim 4, Liston discloses the stopping mechanism (32) includes a first latching device (52, 70) for holding said safety wedges (50, 51) in said non-deployed position, a second latching device (70) (since the link (70) is threaded into the wedges (50, 51), the movement of the wedges (48) are constrained by the movement of the

Art Unit: 2837

threaded) for locking said safety wedges (50, 51) in said depolyed position, and at least one spring (72) associated with said safety wedges (50, 51) to move said safety wedges (50, 51) from said non-depolyed position to said depolyed position once said first latching device (70) is released in response to said electronic control signal (Col 3 lines 5-65).

9. In Re claim 5, with reference to Figures 3 and 5, Liston teaches the first (52, 70) and second (70) latching each comprises a solenoid (64) (the link is connected to and actuated by the solenoid (64)).

10. In Re claim 8, with reference to Figure 3, Liston teaches said at least one spring comprises a plurality of springs (Figure 5: 72) with at least one spring (72) associated with said safety wedges (50, 51) and a connector (40, 66) for connecting said springs (72) to an actuator (52, 64, 66, 68, 70) (Col 3 lines 5-65). In addition, West (as we have discussed above) teaches said spring is returned to a non-depolyed position in response to said electronic reset signal.

11. In Re claim 10, Liston teaches at least one sensor (76) for monitoring elevator car speed, said at least one sensor (76) communicating with an elevator control for controlling movement of the elevator car (Col 3 lines 36-62), and wherein said stopping mechanism comprises an emergency stopping mechanism (Figure 2: (32)) for an elevator safety system (Abstract), said emergency stopping mechanism being responsive to said electronic control signal (signal received from tachometer generator (76) to activate the solenoid (64)) to automatically stop the elevator (24) when a car speed exceeds a predetermined threshold speed (Col 3 lines 36-62).

Art Unit: 2837

12. In Re claim 13, Liston teaches an emergency stopping mechanism (Abstract; Figure 2: (32)), and identifying an undesirable operating condition for an elevator braking operation (automatically stop the elevator (24) when a car speed exceeds a predetermined threshold speed) (Col 3 lines 36-62).

13. In Re claim 14, with reference to Figures 1, 2 and 5, Liston discloses a safety housing (36, 48) for movement with the elevator car (24), positioning safety wedges (50, 51) on opposing sides of a guide rail (25), and mounting the safety wedges (50, 51) and housing (36, 48) for movement with the elevator car (25), and the step of preventing movement of the car includes moving the safety wedges (50, 51) from a non-deployed position (Figure 5: disengaged position) to a deployed position (engaged position) (Col 3 lines 5-35) with at least one spring (72).

14. In Re claim 15, with reference to Figures 3 and 5, Liston discloses the step of forcing the safety wedges (50, 51) into frictional engagement with the guide rail (25) as the safety wedges (50, 51) move from the non-deployed position (disengaged position) to the deployed position (engaged position) (Col 3 lines 5-35).

15. In Re claim 16, Liston discloses the at least one spring comprises a plurality of springs (Figure 5: 72), and the step of latching the safety wedges in the non-deployed position with a first latch mechanism (52, 70), coupling at least one spring (72) to each of the safety wedges (50, 51) to move the safety wedges (50, 51) from the non-deployed position to the deployed position once the first latching device (52, 70) is released in response to the electrical control signal, and latching the safety wedges (50, 51) in the deployed position with a second latch mechanism (70) once the first latching

Art Unit: 2837

mechanism is released (since the link (70) is threaded into the wedges (50, 51), the movement of the wedges (48) are constrained by the movement of the threaded) (Col 3 lines 5-65).

16. In Re claims 6 and 17, with reference to Figures 3 and 5, Liston teaches an actuator (52, 64, 66, 68, 70) operably coupled to said spring (72) to hold said spring (72) and the corresponding safety wedge (50, 51) in a non-deployed position under normal operation (Col 3 lines 5-65). In addition, as we have discussed above, West teaches a brake actuator can be reset remotely in response to an electrical reset signal after the brake has been set (Abstract).

17. In Re claim 18, with reference to Figure 5, Liston discloses the step of coupling at least one spring (72) to the safety wedges (48), mounting a carrier plate (66) for movement with the springs (72), and controlling movement of the carrier plate (66) with a solenoid actuator (52, 64, 66, 68, 70) (Col 3 lines 5-65).

18. In Re claim 19, with reference to Figures 3 and 5, Liston discloses the step of activating the solenoid actuator (52, 64, 66, 68, 70) to overcome the spring force of the springs (72) by holding the carrier plate (66) and the safety wedges in the non-deployed position (disengaged position) with an electromagnet (64), and releasing the electromagnet (64) from an initial position causing the at least one spring (72) to move the safety wedges (50, 51) into the deployed position (engaged position) in response to identification of an undesirable elevator operating condition (overspeed condition or breakage of cable) (Col 1 lines 49-63; Col 2 lines 34-38; Col lines 5-65).

Art Unit: 2837

19. In Re claim 23, with reference to Figure 6, Liston teaches an enclosure (132) that is supported on an elevator frame movable within a hoistway along elevator rails (125, 125') that are positioned on opposite sides of the elevator car, and wherein the stopping mechanism (150, 151, 150', 151') is associated with at least one of the elevator rails (Col 3 line 66 to Col 4 line 16).

Allowable Subject Matter

20. Claims 7, 9, 20-22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

21. Applicant's arguments filed 02/23/09 have been fully considered but they are not persuasive.

In response to applicant's argument "Liston does not disclose an elevator car, and does not disclose a stopping mechanism for an elevator car", Liston discloses an overspeed brake mechanism for a storage and retrieval vehicle which is capable of vertically moving along a guide rail. Based on the principle of giving the broadest reasonable interpretation to a claimed limitation, elevator car is broadly interpreted as "a platform or an enclosure raised and lowered in a vertical shaft to transport people or freight" (as disclosed by www.thefreedictionary.com). Therefore, the storage and

Art Unit: 2837

retrieval vehicle (disclosed by Liston) which is capable of vertically moving along a guide rail for transporting load is considered as an elevator car.

In response to applicant's argument "West does not disclose, suggest, or teach resetting in response to an electronic reset signal", West discloses a brake actuator which is remotely resettable by an operable (Abstract; Col 3 lines 5-15). In addition, the rotation of shaft (49) in clockwise or anti-clockwise direction will trigger set or release the brake via cable (27) (Col 8 lines 11-68). Based on the principle of giving the broadest reasonable interpretation to a claimed limitation, "remotely" is broadly interpreted as "located far away or distant in space" (as disclosed by www.thefreedictionary.com). Therefore, "remotely" does not necessarily mean "wireless". Although the signal used to set or release the brake is sent via a cable line to the brake, the signal is actually sent from a distant away from the brake. Thus, West discloses the brake actuator is remotely resettable.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2837

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kawing Chan whose telephone number is (571)270-3909. The examiner can normally be reached on Mon-Fri 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BENTSU RO/
Primary Examiner, Art Unit 2837

Kawing Chan
Examiner
Art Unit 2837